



COMMUNITY PRESERVATION PROJECT APPLICATION COVER SHEET

I: Project Information

Project Title: Upper Roberts Meadow Reservoir and Dam Restoration

Project Summary: The Friends of the Upper Roberts Meadow resubmit their application and seek \$100,000 in partial funding to repair the 130-year old historic dam and save the scenic and environmentally Roberts Meadow Reservoir. While this is a multi-year project, the Friends have been given a deadline of June 30th to raise their portion of the funds, representing the difference between dam repair and dam removal. The attached is our updated narrative.

Estimated start date: June 2010 Estimated completion date: Sept. 2011

CPA Program Area (check all that apply):

- | | |
|--|---|
| <input checked="" type="checkbox"/> Open Space | <input checked="" type="checkbox"/> Historic Preservation |
| <input type="checkbox"/> Community Housing | <input type="checkbox"/> Recreation |

II: Applicant/Developer Information

Contact Person and or/primary applicant: John Clapp, Treasurer

Organization (if applicable): Friends of the Upper Roberts Meadow Reservoir

Mailing Address: PO Box 561, Leeds, MA 01053

Daytime phone #: 584-1703

Fax #: same

E-mail address: starlightllama@gmail.com or savethechesterfieldroaddam@gmail.com

III: Budget Summary

Total budget for project: Entire project: \$1.07 million. Friends portion: \$625,000

CPA funding request: \$100,000

CPA request as percentage of total budget: 1/6

Applicant's Signature: _____

Date Submitted:

Feb. 8, 2010

February 5, 2010

Ms. Fran Volkmann, Chair
Community Preservation Committee
c/o Office of Planning and Development, Room 11, City Hall
210 Main Street, Northampton, MA 01060

Dear Ms. Volkmann;

The "Friends of the Upper Reservoir and Chesterfield Road Dam" respectfully resubmit our CPA Application for a 2010 Spring grant. The Friends seek \$100,000 to provide partial funding to renovate the historic Upper Roberts Meadow dam and to save the Upper Roberts Meadow Reservoir. Since we have last met the following developments have ensued:

- The Friends have received updated cost estimates from the BPW; the cost differential between repair and removal is estimated at a mere \$25,000. However, as of this writing, the BPW is asking us either (1). To prove that a repaired dam can pay for its own maintenance by tapping its "green" hydro-potential; OR (2) To raise \$625,000, to forward-fund 50 years of estimated maintenance costs for a non-hydro dam.
- The Mayor and the Board of Public Works have given us a deadline of June 30, 2010 to complete the above. CPA funds will be a timely and important contribution to this goal.
- A public forum was held on January 20th at Leeds School attended by approximately 45 people; the vast majority urged repairing the dam and saving the reservoir.
- The City's consultants, GZA, clarified renovation options. The most complete restoration option requires drilling through the rocks and inserting metal rods *IN THE CENTER* of them. (No plan had metal rods or I beams in front of the granite blocks or in any place in which they would be visible; the DPW was incorrect in its presentation in this regard to the CPC in November). The top of the rock spillway would likely require a layer of concrete to bring it to code, but the majority of this would be underwater. And, contrary to a recent unfortunate quote in the [Gazette It would *not* look "like the Hoover Dam" or otherwise impair the aesthetics of the dam.
- The Friends are incorporating and have undertaken a local fundraising campaign. CPC funds would not be 'first' to support this project financially. Locals from Northampton, Florence, Leeds and even Hadley, Amherst and Westhampton have already stepped forward to support this effort to save the dam. We have been in discussions with two premier green energy hydro consultants; their optimism about the hydro potential of the dam gives us great confidence. Our first-phase private fundraising goal of \$8,000 will go towards their on-site assessment, feasibility report and recommendations.

The Chesterfield Dam and Upper Reservoir represent a timely, unique opportunity to seize the "green" initiative. Some people might propose building dams to generate clean energy, but we already have one! The benefits to the City and entire region will be many, making Northampton an example of initiative and innovation. The ecological benefits of preserving this historic dam— home to river otter, beaver, kingfisher, great blue heron, migrating ducks the state-listed wood turtle and , according to NHESP (Natural Heritage and Endangered Species Program many species of Special Concern—are "icing on the cake". The Chesterfield Road Dam and the Upper Reservoir are irreplaceable community assets, and we have a very limited window in which we seek your support to save this site.

We thank you for your consideration and hope for your favorable decision.

John Clapp, Treasurer
And The Friends of the Upper Reservoir and Chesterfield Road Dam

The Friends of the Upper Roberts Meadow Reservoir and Chesterfield Road Dam (hereafter The Friends) respectfully resubmit this application requesting \$100,000 for partial funding to preserve and to repair the 130-year old historic Upper Roberts Meadow Dam and prevent the draining of the 6 acre Upper Roberts Meadow Reservoir. According to Fran Volkmann's explanation of CPC rules and recent clarification, we need only enclose the following updates to serve alongside that original application and letters of support.

Since we have last met the following developments have ensued. The Friends have:

- Registered as a nonprofit with the State, are obtaining a Federal 501c3 designation with the sole purpose to save the reservoir and dam and see micro-hydro installed on the dams in Florence and Leeds.
- Begun a local fundraising campaign that to date has yielded \$1500 from more than 25 donors.
- Secured pro-bono counsel.
- Submit ongoing grant applications to regional and national funding sources.
- Created a website to share information so the public can access and understanding the issues around this project.
- Sought 3rd party opinions to clarify disputed issues regarding dam safety, impact of dam removal/repair on fish and wildlife, and understand which species that rely upon this habitat are Endangered or of Special Concern.
- Prepared and presented a half-hour PowerPoint for the Public Forum, held on January 20th at Leeds Elementary School to inform citizens of the many reasons to save the dam.
- Received updated cost estimates from the BPW; the cost differential between repair and removal is estimated at a mere \$25,000. However, as of this writing, the BPW is asking us either (1). To prove that a repaired dam can pay for its own maintenance by tapping its "green" hydro-potential; OR (2) To raise \$625,000, to forward-fund 50 years of estimated maintenance costs for a non-hydro dam.

Time is of the essence. Briefly, the Office of Dam Safety is requiring that this historic, 130-year old dam be repaired or removed. A Public Comment period has shown that members of the community want the dam repaired and the reservoir saved. Of the audience of 45 people at the Public Forum, the overwhelming majority was there in support of, and spoke in favor of, repairing the dam and saving the reservoir.

The Friends face a significant time constraint. We were able to negotiate and obtain a six month extension from the Office of Dam Safety, which put on hold the City's permitting and other processes to remove the dam. Mayor Higgins gave The Friends a deadline of June 30th to have the funds raised or pledged. CPA funds will be important to add to that list of pledged funds, and we will access only \$10,000 for consultant fees before 2011. We are negotiating for additional time, in particular to co-write and submit with DPW a number of municipal grants due in June and September, but that decision for additional time is pending.

CPA Criteria Met: Open Space. The Upper Reservoir is by any measure a beautiful site, and well fits the CPA criteria to protect open space and water views. Located along Chesterfield Road, this water vista is rare for Northampton. The beauty of the Upper Reservoir is available to anyone walking, biking or driving along Chesterfield Road. The loss of this site would destroy this region and remove its most beautiful feature. The dam itself is visible from the road and is accessible from an undeveloped

overlook. While some say that the space would remain 'open' even if drained, there is a significant difference between a silt-covered, likely rip rap lined swamp vs. this stunning reservoir.

Environmental. Nearly 130 years ago, a deep ravine along Roberts Meadow Brook was dammed to form a reservoir to provide Northampton with additional drinking water and in the process, significantly changed the landscape. In 1905 the Reservoir was abandoned as a source of town water. In the 105 years since, wildlife have reclaimed it and the Upper Reservoir has become habitat for many wild creatures including brook trout and other fish, migrating ducks, blue heron, kingfisher, river otter, beaver, and several listed species – see below. According to the Natural Heritage & Endangered Species Program administered by the Massachusetts Division of Fisheries and Wildlife, the core habitat along the Roberts Meadow Brook and the reservoir contains the following species, many of which are of special concern. For their sake, this area needs to be protected:

Core Habitat BM737 (Upper Roberts Meadow)

Invertebrates - Common Name

Elderberry Long-Horned Beetle
Spatterdock Darner (a dragonfly)

Scientific Name

Desmocerus palliatus
Aeshna mutata

Status

Special Concern
Special Concern

Vertebrates - Common Name

American Bittern
Four-toed Salamander
Jefferson Salamander
Spotted Turtle
Spring Salamander
Wood Turtle

Scientific Name

Botaurus lentiginosus
Hemidactylium scutatum
Ambystoma jeffersonianum
Clemmys guttata
Gyrinophilus porphyriticus
Clemmys insculpta

Status

Endangered
Special Concern
Special Concern
Special Concern
Special Concern
Special Concern

While there has been much debate about brook trout, a MA Fish and Wildlife study shows that a healthy population exists above and below the multiple Roberts Meadow dams and throughout the Mill River watershed. The Upper Reservoir is the first of five or more dams along the waterway to the Connecticut River, and unless all are removed, from Roberts Meadow beyond Paradise Pond, the removal of one dam will provide no appreciable benefit for brook trout. "The system has adjusted ecologically since the inception of those reservoirs. There are not hundreds of 'brookies' waiting below the dam to swim upstream, in fact conversely, the populations above and below the upper dam are most likely doing just fine and are reproducing within the habitat limitations that already exist mostly due to the fact that it's a small stream." Jason Johnson, fish ladder consultant, Leeds, MA.

Historic Importance The Chesterfield Road region was once the site of significant human activity. As noted in our previous application, Moody's Tavern located at the intersection of Sylvester and Chesterfield Roads was an important stop along the path from Boston to Albany and hosted General Lafayette (in 1825) and Henry Clay (in 1833). The Tavern survived until 1927, serving a private residence during its final years. The tanneries, elementary school, tavern, the toll road, and even the brook as it naturally meandered across Chesterfield Road, are all gone. The dam is the last remaining structure dating from that era and that fits Historic Designation criteria. We continue to pursue that designation.

According to the Phase 2 Report of the GZA (the DPW's project consultants); one of the concerns if the dam is dismantled would be "the potential loss of a historic structure." Yet they filed paperwork stating that they believed there is no historic structure at the site. According to the members of the

Northampton Historical Commission, due diligence was not employed by the MA Historic Commission in determining if this dam's removal would have historic consequences. The Friends have learned that the MA Historic Commission took GZA's word that there is no historic benefit and simply signed off on an early permit for removal. The Friends are challenging that claim, as this dam is possibly the first locally constructed dam built after the Mill River Flood. This disaster changed dam construction around the country. The Upper Roberts Dam construction was not only overseen by engineers, but one of the causes of the Great Flood collapse - failure to remove brush - was carefully addressed at the Upper Roberts site. This granite dam was likely over built in response to the fears of the day. The builder's attention to detail has enabled this dam to exist for decades without further maintenance or care.

The Upper Roberts Meadow Dam was initially called Hoxie's Dam. Mr. Hoxie was the owner of the abutting farm and owner of one of two leather tanneries located at this site. Hoxie's handwritten diaries were just discovered on microfilm in early February and they will undoubtedly offer insights into the construction and thinking that went into this project. Mr. Hoxie was forced to sell his farm as his practices were deemed 'injurious to the purity of the water' which was then an important source of drinking water for Northampton residents. In an article that appeared in the Pittsburgh Press (July 26, 1901) Hoxie deeply regretted selling and never got over the loss of the "good features of the old farm." This article concludes: "the moral of all this is, don't part with the old... until you are compelled to and are sure you can better yourself." The Friends heed this warning; we should not lose this reservoir as the loss of the dam and the draining of the Reservoir will not better anything for humans or wildlife.

The Next Phase: Hydro. While protecting open space, preserving wildlife habitat and protecting a natural resource are the primary concerns of the CPC and the primary reasons the Friends are working to protect both the Dam and the Upper Reservoir, this site may well have a greater purpose yet to come; to serve as a catalyst for the City of Northampton to utilize this dam and others along this brook and the Mill River as a source of green, renewable energy. While this is beyond the purview of the CPC, this issue is important to note because this issue is key to the BPW agreeing to allow us time to fundraise to save the dam. If the dam can support itself, BPW has agreed that it can be saved. Hydro-power will not affect the look of the dam, but a small powerhouse will need to be constructed. Ideally, it will be built of split blocks that will resemble the granite blocks of the dam and John Clapp, John Clapp Building and Design, has offered to draft this structure. Micro-hydro technology has vastly improved in recent years. The units are smaller, discreet, run of the river, have screens to prevent trash and fish from entering, and are considered virtually maintenance free. Chesterfield Road currently has power lines so linking to the existing grid will not create a new eyesore.

According to the Friends' consultant, Robert Craig (now with EnergyCHEK an international alternative energy company), conservative estimates based on the DPW's own reports show that the Upper Reservoir has a capability of powering 40 - 80 homes. The Lower Reservoir has the conservative potential of providing 300 - 400 homes with power (based on 2005 use standards). The City owns these dams, and the DPW would hold title to the income which could become an important income stream for them. Support for renewable energy projects is available and in January of 2010, Governor Patrick added \$7 million to fund alternative energy projects for municipalities. Northampton should avail itself of these, and similar funds.

The Next Phase: Fire safety The dams on Reservoir Road were initially built to address city fire concerns. Today, fire hydrants in the western part of town are minimal, and the fire hydrant closest to

the Upper Reservoir is located over a half mile down Sylvester Road. A resident of Shepherds Hollow Road spoke at the January Public Forum of the importance of retaining the Upper Roberts Meadow Reservoir for fire safety. His home suffered extensive damage 2 summers ago due to a fire hydrant failure. Northampton Assistant Fire Chief Nichols suggests that when any dam work is done, a 'dry hydrant' unit should be installed to protect the area's citizens. The unit would be a static pipe that would enable the fire department to pull up water should they need to fight a fire. Nichols' estimated that the dry hydrant will cost range from \$5,000 to \$10,000, and Assistant Fire Chief Chris Norris stated that the permitting is time consuming and should be done at the same time that the dam permits are sought. Funds would come from a grant co-written by the Friends and the Fire Department.

Clearly the Upper Reservoir is an important multifaceted resource.

Guarantees of Preservation. The best guarantee for the long-term preservation of the Upper Roberts Meadow Reservoir and Dam is to fund the restoration and prevent the breaching of the dam. The dam has stood for nearly 130 years with minimal upkeep. The Office of Dam Safety has found Northampton to be consistently out of compliance with this dam and will require that they follow a strict regimen of upkeep, including inspections in alternate years for as long as the dam stands.

Support. Support for this project has come from vastly differing corners. First, private citizens have come forward as this project has become better reported and in less than two months of face-to-face petitioning more than 400 citizens in Northampton, Florence, Leeds, Westhampton, Chesterfield and the surrounding area signed on. Our fundraising campaign is just underway and has yielded over \$1500 in donations from local donors. Despite the local pressure to support the Northampton fires and the earthquake in Haiti, we have received many gifts, and each has included notes and letters from donors who shared brief stories and their encouragement to save the dam. With the website up, we are receiving calls from former area residents who care enough to call and encourage us to fight to protect this space and offer their financial support. One Leeds resident who spoke at the January 20th Public Forum came to speak on behalf of a former resident, now living in California, who wanted to share his desire to spare the reservoir and dam. Jim Parsons, nephew of local historian James Parsons, called from New York to urge us on and offered stories of his own escapades in and around the Reservoir. He noted that his will stipulates that his ashes are to be sprinkled in the Reservoir. People care.

The Friends membership is growing and core members include a retired city planner, an electrician, an engineer, a research librarian, a contractor, a retired nurse, two lawyers, and three individuals who work in development.

Our initial supporters include the following. Those with letters previously submitted are designated *: State and Local politicians in support of this project include State Senator Stan Rosenberg and Representative Richie Neal. Senator Stan Rosenberg's offer to be a resource for the Friends and the City, to pave the way for any needed dam removal extensions, provide assistance in finding state and federal dollars for micro-hydro, and to be an ongoing advisor, still stands.

- All three of the candidates who fought for the Ward 7 seat (representing Leeds and the dam) want this dam saved. (George Russell*)
- Michael Bardsley, former Counselor-At-Large and mayoral candidate believes these important resources should be maintained for their beauty and their energy-producing potential. *
- Marianne LaBarge, Counselor for Ward 6 offers her full support of this request and spoke on behalf of saving this site at the recent Public Forum. *

- Joseph Misterka, former Superintendant of Northampton Schools is a supporter of this project and in late Fall joined The Friends. *
- Nonotuck Land Fund, responsible for protecting the majority of land in this region. *
- Steve Strimer is a supporter and we have had early talks of sharing grant applications to seek education funds for teaching kids about the riches of this region's past and linking past/present use of hydro power.
- Robert Craig of D&R Energy Services, now with EnergyCHEK*. Located in Michigan, Robert has supported this project by offering hours of time via phone and email, reviewing the Upper and Lower Roberts Meadow Reservoir dam specs, and preparing preliminary documents for grants and for the BPW to prove the potential of micro-hydro. With another civil engineer from EnergyCHEK, he reexamined GZA's flood plan, found flaws in the reporting, and contested the claim of a "domino effect" disaster which we presented at the Public Forum. Their work has been critical in addressing fears and concerns of Leeds residents.

Project Success The success of the CPA support of the Upper Roberts Meadow Dam and Reservoir will be easy to see. The Upper Reservoir will remain a beautiful water vista and home to wild creatures and the Dam will be restored. Following additional grant and community support, the history of the region will be fully explored, and the micro-hydro will be installed and producing power. This project will serve as an example that it is possible to balance multiple needs and concerns; that one can protect a historic site, protect wildlife, and tap a natural resource for green energy and do no harm.

Project Timeline The timeline for this project has been shifted thanks to an extension was granted by the Office of Dam Safety. The final design work and permitting will take place in 2010; bidding and project awards are planned for late spring or early summer, dredging and construction is planned to begin in 2011. This timeline is subject to change, however securing grants in advance of construction is imperative in order to ensure saving the dam.

Feasibility The DPW and the GZA will complete all necessary design, permits and approvals. Each step will be regulated by the State and Federal governments, and we feel confident that the highest standards will be met. This project is not only feasible; it is being *required* by the Office of Dam Safety. There is significant permitting, including DEP, Conservation, and Historic work to be completed.

Project Budget The Budget was created by GZA GeoEnvironmental Inc., and is included below. The funds raised for this project will pay for the difference between dam repair and dam removal. The final design of the dam repair will balance the historic elements and meet dam safety requirements. We were informed by Mayor Higgins that a pledge letter will suffice as proof that CPA funds are available to support this project. Funds for consultants and design will be needed in 2010, the balance in 2011.

The Friends portion of the costs will be further broken down as we continue negotiations with the BPW and Joint Committee, however the funds would tentatively be spent as follows:

\$25,000 - Difference between dam removal and repair.
 \$15,000 - Consultant fees -hydrologist/hydro consultant
 \$40,000 - Historic Dam design (GZA will design the dam, however Paul Spector notes that if we pay for this portion, we can assure that historic criteria will be met.)
\$20,000 - Future maintenance fund set-up*
 \$100,000

*One consultant suggests that CPA funds granted now be repaid from future hydro income

Closing The Commonwealth of Massachusetts has stated that repair or removal of Upper Roberts Meadow Dam is necessary. The Friends have worked, despite significant odds, to continue to press to save the Dam. Our fundraising efforts continue and we have received support from local donors from Hadley, Northampton, Florence, Leeds, and Westhampton. Your support of this project will prevent a beautiful water vista from being drained, halt the demolition of one of the city's oldest dams, protect a valuable resource for wildlife and for public safety, and will serve as the catalyst for creating citizen-city partnerships. By supporting this request, the CPC will be setting an important precedent for the city of Northampton on how it is possible to simultaneously protect nature and our unique history.

The Friends thank you for your consideration.

Projected Income/Expense – Source: DPW/GZA

Note the key here is the last column shows the DIFFERENCE between removal and repair

Dam Repair Expense	All costs are estimates		Dam Removal Expense		Difference
CPA FUNDS: 25,000	Dam Rehab	\$950,000	Removal/Dredging	\$925,000	\$25,000
CPA FUNDS: \$40,000 +\$15,000 hydrologist	Design/Permitting	\$125,000	Design/Permitting	\$125,000	0
	Repair Total	\$1,075,000	Removal Total	\$1,050,000	\$25,000
Future Maintenance					
Alternate year inspections CPA FUNDS: \$20,000	Future Inspections/ Routine Maintenance/ Stone Repointing	\$250,000	Routine Maintenance/ TBD cost of removing invasive species	\$50,000	\$175,000
Dredging. We contest this and are negotiating for this to be removed from 'our' ledger.	1 future Dredging Upper Reservoir	\$500,000	Partial Dredge of Middle Reservoir - without the Upper Res. ALL sediment will enter the Middle and will cost far more.)	\$100,000*	\$400,000*
Totals /Difference in Dam Repair/50 yr maintenance	Total Maintenance, repaired dam	\$750,000	Total Maintenance without the dam	\$150,000+	\$600,000
TOTALS	Dam repair/maintenance	\$1,825,000	Dam removal/ site maintenance	\$1,200,000	\$625,000*

Income

INCOME Total Project:	\$1,825,000		
DPW portion: Source – water ratepayers		\$1,200,000	
Friends Portion:		\$625,000*	Friends Sources:
CPA funds			\$100,000
Pending Grants – Entergy \$5,000 Cox -\$50,0000 TD Bank North \$250 National Dam Safety State Assistance \$100,000			\$155,250
Local Fundraising - \$8,000 (for Hydro consultant) Hydro – income earned in first 15.5 years (Or additional grants will need to be sought.)			\$369,750*

50 year Micro-hydro projections: Consultants determination to be completed in Spring 2010

Current estimates on Upper Roberts Meadow generating capacity only.	Micro-hydro Income potential: \$1.2 million excluding state/grant funded installation/costs	\$1.2 million income assumes 50 years @ 10 cents per kW	\$1.2 million - 369,750 \$830,250	\$830,250 balance for City
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February 4th, 2010

Memo to: Northampton CPA Committee

From: Terry Blunt

Subject: Leeds Dam

This is an expression of support for the recent CPA request submitted by the Friends of the Upper Reservoir and Chesterfield Road Dam.

When the Community Preservation Act was created in September of 2000, the intent was to provide funding to address the needs of affordable housing, open space preservation, and acquisition and preservation of historic structures and landscapes. This Leeds dam project request meets two of the three criteria of the Act.

The 130 year old dam, and the wetland landscape it has created, clearly presents an opportunity to maintain a link to the past, something we do too rarely. The Community Preservation committee is in a unique position to assist the restoration and preservation of a structure that is part of the natural and historic legacy of the area. The beauty of Community Preservation committees is that they can act proactively to protect features for the long term, using dedicated funds already in hand, and in this case, supplemented leveraged by private fund-raising efforts. Indeed, without CPC support, the Leeds dam structure will most likely be torn out, probably at a larger cost to the City and its residents.

All in all, an expenditure of CPA funds, with a commitment from the Friends group to raise the remainder needed to restore the structure, would be a good investment.

Thank you for the opportunity to comment.

TB

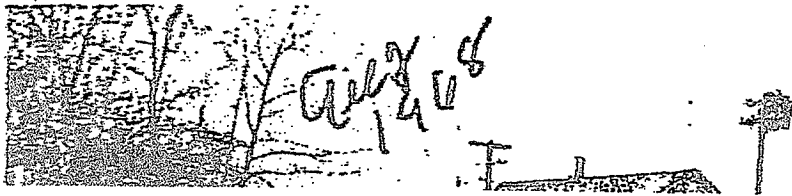
Hampshire County's Dams

Have Hampshire County officials been fulfilling obligations entrusted them by the citizens? It seems that nothing is being done to preserve dams for recreation, beauty and safety. It must be quite disturbing to the citizens of Hampshire County to see potential recreation areas and places of beauty and historic significance being left to decay and fall apart.

It seems that no one is willing to accept the responsibility for these dams unless they can be used to make money for a particular business. Most of the businesses in the county are willing to take on civic responsibilities and it is hoped the persons responsible for these dams will do the same.

Let us not just take from the land and rivers, let us conserve and improve and give back part of the beauty we are fortunate enough to have.

—Statement by Northampton City Councillor John Rockett



Daily Hampshire Gazette, August 1968

